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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,124	08/21/2003	Randall Scott Jensen	ROC920030013US1	7109

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EXAMINER	
GUSHI, ROSS N	

ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/645,124	JENSEN ET AL.	
	Examiner	Art Unit	
	Ross N. Gushi	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-4,6,8,10-15,17,18 and 22 is/are rejected.

7)☒ Claim(s) 5,7,9,16 and 19-21 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 22 August 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in —
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a);

Claims 1, 10, 11, 12, 17, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Burns. Per claims 1, Burns discloses a connector apparatus 30 for securing a printed circuit board to supporting apparatus comprising a body member 31 with upper and lower surfaces, an internally threaded opening 32 extending into said body member from said upper surface, and a plurality of rigid, parallel, cantilevered pins 35 extending from said body member lower surface and disposed radially outward with respect to said threaded opening.

Per claim 10, said body member includes a pair of parallel side surface portions whereby said body member can be grasped by a tool to enable manual or automated fabrication of said connector apparatus.

Per claim 11, Burns discloses a plurality of openings in said circuit board which are aligned with and into which said pin cantilevered ends respectively extend; and

means securing said pin cantilevered ends respectively in said plurality of circuit board openings.

Per claim 12, said like plurality of openings in said circuit board are parallel vias extending through said circuit board and said means securing said pin cantilevered ends comprises soldering 14 said pins within said vias.

Claims 17 and 22 are rejected for the reasons pertaining to claims 1, 10, 11, and 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-4, 6, 8, 13, 14, 15, and 18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns in view of Buck and Kawabe.

Regarding claim 2, Burns discloses that the body member is formed of a molded polymer. Burns does disclose that the threaded opening is formed in a metal insert which presents such internal threaded opening at said upper surface. Buck discloses a metal insert 66 with a threaded opening insert molded within an overmolded housing. At the time of the invention, it would have been obvious to replace the Buck threaded opening with a metal insert including the threaded opening where the insert is molded in the housing as taught in Buck. The suggestion or motivation for doing so would have

been to make the threaded opening more durable and damage resistant, such motivation being well known in the art.

Burns discloses two pins. Kawabe discloses a connector apparatus 6 (see figure 8b) including a body, a threaded opening 6c and at least 3 cantilevered pins 6h captured by the molded polymer body 6a (see col. 5, lines 5-20). At the time of the invention, it would have been obvious to include three or more pins in the Burns apparatus as taught in Kawabe. The suggestion or motivation for doing so would have been to improve the securement of the device to the substrate, as taught implicitly in Kawabe and such motivation also being known in the art. The Burns pins are not molded in the body. Also at the time of the invention, it would have been obvious to mold the Burns pins in the body as taught by Kawabe. The suggestion or motivation for doing so would have been to permanently secure the pins to the body as taught implicitly in Burns and such motivation also being known in the art.

Per claim 3, the Buck metal insert is an internally threaded cylindrical member and the pins in Burns are disposed radially outward with respect to the opening (which would be in the metal insert as discussed regarding claim 2).

Regarding claim 4, the Burns pins 35 are inherently means carried by said connector for engagement with a board on which said connector is mounted to establish alignment of said connector on said board.

Regarding claim 6, as shown in Kawabe figure 8A, the pins of the Burns pins 35 are inherently means carried by said connector for engagement with a board on which said connector is mounted to establish the distance separating the connector body

portion from said board in the installed condition (i.e. the pins are inherently capable of holding the body away from the board at some predetermined distance, as demonstrated in Kawabe figure 8A).

Regarding claim 8, the modification suggested regarding claim 2, would result in the molded polymer body member insulating the pins from the insert.

Claims 13, 14, 15, 18, are rejected for the reasons pertaining to claims 1-4, 6, 8, 10-12, 17.

Allowable Subject Matter

Claims 5, 7, 9, 16, and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 5, the prior art does not suggest the apparatus as claimed, including the combination of all the claimed elements, the combination including the axial projection formed as part of said body member, extending parallel to said pins, wherein said axial projection engages a depression in said board to effect the alignment.

Regarding claim 7, the prior art does not suggest the apparatus as claimed, including the combination of all the claimed elements, the combination including the axial projection formed as part of said body member, extending parallel to said pins, and having a length equivalent to the separation to be established between said connector body member and a board on which said connector apparatus is mounted.

Regarding claim 9, the prior art does not suggest the apparatus as claimed, including the combination of all the claimed elements, the combination including that the body member molded polymer is an electrically conducting material which provides an electrically conductive path between said pins and said threaded metal insert.

Regarding claim 16, the prior art does not suggest the apparatus as claimed, including the combination of all the claimed elements, the combination including the means for limiting penetration of said connector pin cantilevered ends into said circuit board openings.

Regarding claim 19, the prior art does not suggest the apparatus as claimed, including the combination of all the claimed elements, the combination including the irregular outer surface as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross Gushi whose telephone number is (571) 272-2005. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Paula A. Bradley, can be reached at 571-272-2800 extension 33. The phone number for the Group's facsimile is (703) 872-9306.

OSS GUSHI
ARY EXAMINER